Common Core Standards - Resource Page

The resources below have been created to assist teachers' understanding and to aid instruction of this standard.

Domain	**Standard:** N.Q.1 - Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.
Quantities **Reason quantitatively and use units to solve problems.**	Questions to Focus Learning What information do units provide about quantities represented in formulas, graphs, and real-world situations? Units provide information about quantities represented in real-world situations. Student Friendly Objectives *Knowledge Targets* I can identify what a problem is asking based on the units given. I can recognize the appropriate ways to convert from one unit to another. I can understand common ways to communicate measurements, graphs, and formulas. *Reasoning Targets* I can solve problems by identifying and converting appropriate units. I can understand the meaning of the rate of change between two units on a graph. I can determine scale and interpret the meaning of data displayed in a graph. Vocabulary conversion factor evaluate origin rate of change scale slope units of measure unit analysis / dimensional analysis

Teacher Tips

Working with quantities and the relationships between them provides grounding for work with expressions, equations, and functions.

Using, choosing, and interpreting units should occur in the context of applications which contain them, especially mathematical modeling and formulas.

For example: When applying the formula *distance = (speed)(time)*, students should recognize that if distance is measured in km and speed is measured in km/hr, then time must be measured in hours.
This standard also includes converting measurements and dimensional analysis.

Attention should be made to the scale and origin in graphs in all graphing situations, especially those where data and application are present. This includes choosing appropriate viewing windows on graphing calculators and software.

For example: In graphing an exponential function, the horizontal scale may be in ones but the vertical scale in tens, hundreds, thousands, or more. Also, the graph may not need to show negative values of the dependent variable, depending on the context or function.

For example: When fitting a line to data, a graph may not include the origin to best display the data.

Vertical Progression

  N.Q.2 - Define appropriate quantities for the purpose of descriptive modeling.

The above information and more can be accessed for free on the Wiki-Teacher website.
Direct link for this standard: N.Q.1